GEOGRAPHIC NEWS BULLETINS

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THE FUZZY WUZZY, MADE FAMOUS BY KIPLING, IS NOW A CONTENTED BRITISH SUBJECT IN THE SUDAN

(See Bulletin No. 1)

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Do You Know the British Dominions?

CAN you name the nine Dominions of the British Empire?

Don't try.

There are only six. But there may be nine before many years. The three prospective Dominions are:

India: The new Labor government has authorized the announcement that it looks forward to India's attainment of Dominion status.

British East Africa: A survey committee has reported favorably on the proposal to group Tanganyika Mandate, Kenya Colony, and Uganda Protectorate in a new Dominion unit.

Palestine: A voluntary committee in England has made public its aim to work for the inclusion of Palestine in the British Empire, or Commonwealth, as it is now called, possibly as a Jewish Dominion.

The Present "Big Six"

The six "self-governing Dominions" of the British Empire are: Canada, Newfoundland, Irish Free State, Union of South Africa, Australia, and New Zealand.

Dominions were defined at the Imperial Conference of 1926 as "autonomous communities within the British Empire, equal in status, in no way subordinate to one another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown. . . ." Great Britain itself could be fitted into this definition, although a special indefinable status seems to be maintained by the mother country.

Mother Country Still Has Greater Population Than All Six Dominions

The area of six Dominions is 7,471,105 square miles. Since the area of England is but 50,874 square miles, the English have made 14,700 per cent on their original real estate investment on the island. On the score of population, the record stands differently. Although England is to her Dominions as one square yard is to a city lot 30 feet wide by 44 feet long, the Dominions have only three-fourths as many people as are crowded in the homeland.

England has 35,681,000 inhabitants, while six Dominions have but 26,438,000.

Creation of British East Africa would add enough population to give the Dominions a majority. The estimated population of the three African colonies is 9,996,000, slightly more than Canada, but made up entirely of natives except for a few thousand whites.

Some Dominions Now Have Own Ministers at Washington, D. C.

Palestine would be the smallest Dominion in area and second smallest in population. Newfoundland and Labrador, with 262,000, is the least populous of the British Dominions.

A major change in Dominion status has come since the World War. Before that event England itself carried the major burden of handling the foreign affairs of all the Dominions, as well as the other units of the Empire. Now, however, the Dominions can have their own diplomatic representatives abroad. Canada and the Irish Free State now have Ministers at Washington, D. C. The first Minister from the Union of South Africa took up his post in the capital on November 1.

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BLANKETS FOR SALE IN THE MARKET AT MOMOSTENANGO, AN INDIAN TOWN NOT FAR FROM SANTA MARIA VOLCANO

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Guatemalan Volcano Disaster Caused by Old Offender

AN EYE-WITNESS description of the region devastated by Santa Maria Volcano in Guatemala, with the reported loss of 400 lives, has been given in a communication to the National Geographic Society.

The traveler, in the course of a journey from Retalhuleu to Quezaltenango, crossed the flanks of Santa Maria Volcano and passed through the town of Santa Maria, now reported seriously damaged.

"The trip from Retalhuleu to Quezaltenango," writes Thomas F. Lee, "is not only 35 miles across country, but a journey one mile and a half straight up into space—a trip from the Tropics to the heart of the Temperate Zone.

Volcano Blew Out Side in 1902

"Halfway up the Quezaltenango road, the slopes of Santa Maria appear through the mists, with clouds of steam curling up over a new crater just below its peak. In 1902 a terrific blast tore off the side of this volcano. Recently an outflow of lava began, so that a new cone is gradually building up beside the old one. The eruption of 1902 covered the whole country with ash. Coffee-planters mourned their groves as lost and then dug down through several feet of the ash to start new trees in the original soil.

"Guatemalan volcanoes are not the lava kind. They are bold, upstanding cones, built gradually of cinders and ash, with uniform sides sloping up at an angle of 45 degrees. The process going on at Santa Maria is typical, for the new cone built by the side of the original peak ultimately becomes its rival.

"From the volcano of Santa Maria the road to the village of that name is rugged in the extreme. Profound gorges open out below the trail, while above, overhanging cliffs stretch up into the clouds.

Indians Sleep in Steam-Heated Caves

"The Samala River, a wild mountain stream, has eaten out a steep-walled ravine through these mountains. At Santa Maria it plunges over a cliff for a drop of several hundred feet. Here European engineers and hundreds of upland Indians are building a power dam, the material for which, including machinery, has been packed by mule, porter, or ox from sea-level to this high altitude.*

"At one point of the road above Quezaltenango a deep gorge opens, in the bottom of which, at regular intervals, high jets of steam spurt up and float away as cloud. Above it and off the narrow trail are deep, steam-heated caves. At this altitude it is as cold as a frosty morning in the late autumn, but Vulcan is a faithful janitor, and keeps the caves warm for the carriers on the Quezaltenango road, who use them as sleeping places for the night.

"I ventured in to verify the story. A thin cloud of steam comes out from the rocks, which are indeed warmer than many of the midwinter radiators of New York apartments. The chauffeur explained how these lodgers for the night warm their tortillas and frijoles on the ever-hot stones, eat, then doze off in comfort.

"The Indian begins early to train his child to be a carrier. Little by little the size of the pack is increased until he is able to transport from 100 to 200 pounds.

*Editor's Note: Press dispatches report that the lava stream followed the bed of the Samala River, but information on the fate of the hydroelectric plant is lacking. It may have been destroyed.

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Note to Teachers: The geographic significance of the British Commonwealth of Nations has been portrayed by Chief Justice Taft in "Great Britain's Bread Upon the Waters" (56 illustrations), in the *National Geographic Magazine*, March, 1916. Among the many articles on the separate Dominions are: "Canada from the Air," October, 1926; "Lonely Australia," December, 1916; New Zealand, August, 1925, May, 1920; Newfoundland, July, 1929; Union of South Africa, February, 1925; and Ireland, March, 1927. Additional material on these Dominions and the numerous other parts of the British Commonwealth can be found by referring to the Cumulative Index to the *National Geographic Magazine*.

Bulletin No. 1, December 2, 1929.

© *Central Aerophoto Co.*

WHEN THE DERBY IS RUN AT EPSOM DOWNS

The air view of Epsom Downs well illustrates the fact that England's population is far denser than that of her Dominions. The famous race course lies a few miles southwest of Croydon, London's air station. The "Oaks" and the "Derby" races, established in 1779 and 1780, respectively, by the twelfth Earl of Derby, are run annually before hundreds of thousands of spectators.

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Some Strange Tropical Fishes Will Swim in Chicago's Front Yard

A "FISH PULLMAN" is under construction in Chicago. When completed it will travel east, west and south to bring live fishes to the Windy City.

Out in Grant Park, by the shores of fresh water Lake Michigan, an aquarium has been erected to receive both fresh and salt water species. At the time the "fish Pullman" takes on a strange passenger list from Florida's warm waters it is planned to dispatch to Chicago also 125 cars of salt sea water from Key West for use in the aquarium.

Some of the strange Gulf Stream denizens which Chicagoans will see when the aquarium is ready, are the groupers, rock fishes, and hinds, which have the power of undergoing complete color changes almost instantaneously. The color tone becomes lighter or darker and the markings become bold or fade and disappear. Such color changes can be seen to advantage in individuals kept in an aquarium. There can be no doubt that in the fishes' natural environment they adapt themselves to the bottom they are swimming over, and, further, that inconspicuousness may aid in getting a full meal.

Male Sea Horse Carries Eggs Until the Young Appear

The fish life of the warm shores is one of contrasts. In contrast to the big-mouthed sea basses, there are species, usually sluggish, which have very small mouths, depending for their subsistence on the great abundance of small sea animals found about tropical reefs, ledges or seaweeds.

None is stranger than the little sea horses, with bodies incased in rings of bony mail, horse-shaped heads set at right angles, and useful tails to grasp the seaweed where they are hiding, bodies floating upward, erect in the water.

The male sea horse carries the eggs in a pouch under his tail until they are hatched and the young large enough to fend for themselves.

Sluggish small-mouthed species frequently have hard nipper-like teeth, as the small sea animals which they eat have bodies inclosed in shell. As it is difficult for the sluggish small-mouthed species to get out of the way of larger fish, they are protected against attack in various ways. Often their color resembles the color of their surroundings. The trigger-fish has a stout dorsal spine, which locks erect, as well as a very thick leathery hide which must be of some protection.

How the Swell-Fish Surprises His Enemies

The swell-fishes have the power of suddenly inflating the body with water or air until they assume an approximately globular form several times the normal diameter, which must upset an enemy about to seize a swell-fish. The porcupine-fish swells also, but for added protection it has its body everywhere covered with long, sharp spines which project in every direction like the quills of a hedgehog.

The trunk-fishes, instead of being protected in this way, have the body incased in a bony shell, like a turtle. In the East Indies there are box-shaped species, but ours are all three-cornered, beechnut-shaped. They go by various names—cockold, shellfish, and so forth, the cowfish being a species with two hornlike spines projecting from its forehead. They are excellent eating, cooked in the shell like a lobster.

As food-fishes, the snappers are perhaps the most important southern family.

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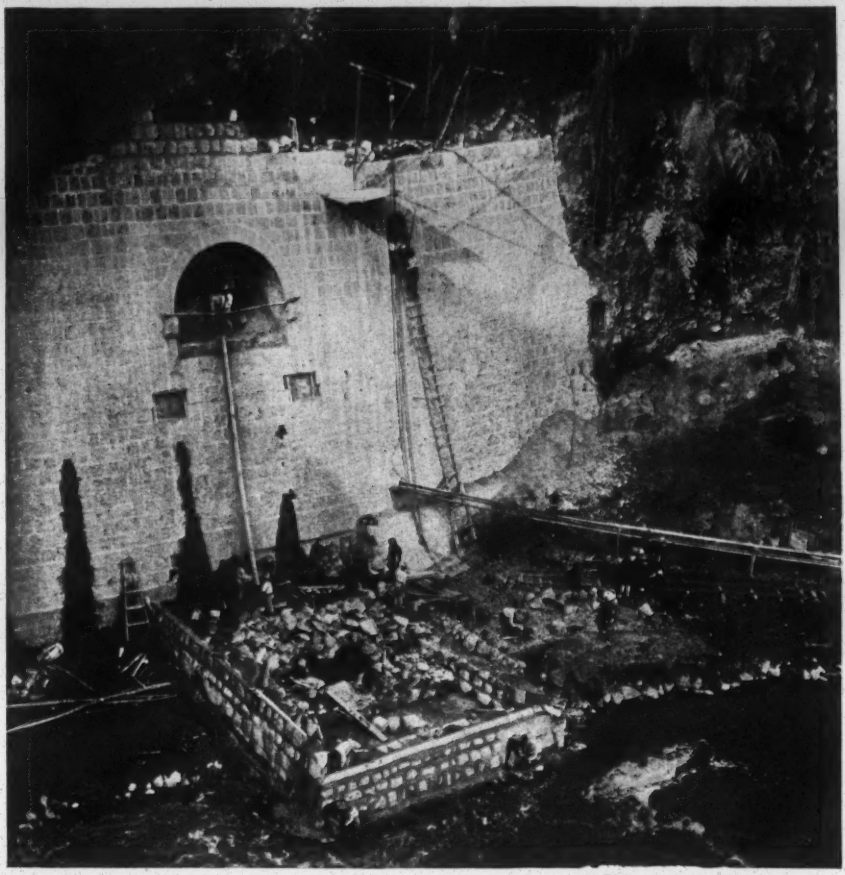
When the maximum weight has been reached, the porter is careful to carry no less than this amount, the theory being that he does not wish to lose the habit of bearing the maximum burden. I was repeatedly assured that he fills out any deficit in the usual load with stones, but I saw no carrier whose intelligence seemed to have ebbed to that low mark.

"We continued to climb. Valleys below are filled with white, woolly clouds; the sky above is a vivid blue. Our road skirts a beautiful little valley where children herd flocks of black and white sheep.

"At 8,000 feet we looked down upon the second city of Guatemala, Quezaltenango, 'Place of the Quetzal,' that rare bird whose scarlet breast, bright-green plumage, and long, graceful tail feathers, make it one of the most striking of tropical species. The Guatemalans chose it as their national emblem because it typifies freedom, since it will not live in captivity."



© Photograph by Thomas F. Lee

POWER DAM WHICH MAY HAVE BEEN DAMAGED IN GUATEMALA'S VOLCANIC ERUPTION

Upland Indians built this power dam at Santa Maria, Guatemala. Many Indian towns have electric lights, and travelers in Guatemala should be prepared for the strange sight of an electric bulb blazing in a thatched and dirt-floored hut. Since the natives are charged a flat rate of about ten cents per month for each light installed, they often let the lights burn day and night.

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The Orkneys, Where a Stone Age Subway Has Been Discovered

A SUBWAY, one of the world's first, has been discovered in a Stone Age village uncovered recently in the Orkney Islands.

The subway is one of the chief features of the village, which is reported to be one of the best preserved Stone Age communities ever found. The subway passage is only four feet high and two feet wide, and it runs the length of the single short street, which is bordered by the foundations of huts and a sort of flint workshop.

"We may imagine the inhabitants," writes the archaeologist working on the ruins, "packed closely, like Eskimos, in these narrow, smoke-reeking huts, gnawing at sheep and ox bones, which they seem to have taken to bed with them. Rotting meat, no doubt, lay about and in small slab tanks probably were limpets, their most frequent food."

Orkney Creek Runs with Salt Water During Storms

Stone Age ruins and Druid monuments are common in the Orkneys and in the other islands off the coast of Scotland.

The Orkneys barely escape being a part of the Scottish mainland. A channel only 6½ miles wide, called Pentland Firth, separates "John O'Groat's"—the northeasternmost tip of Great Britain—from the southernmost Orkney; and the other islands lie near by. In the channel lies a whirlpool only a little less sinister than the famous Maelstrom itself. This patch of seething waters is known as the Swelkie, and was poetically described in old Norse Sagas as "the mill ever grinding the salt of the ocean." The Pentland waves dash so high on the little island of Stroma in the Orkneys that at times a sizable "creek" of salt water runs through the islet from the top of its northern cliffs.

Kirkwall, the chief city of the Orkneys, is primarily a fishing port, and, in summer, is often crowded with trawlers. When the World War got under way, this rather sleepy, far northern town had a great boom, for in its vicinity was established England's greatest home naval base.

There has been some confusion as between Kirkwall harbor and the famous Scapa Flow, from which the Grand Fleet made its dashes, and where, after the war, the interned German fleet was sunk by its own sailors. The two harbors are not identical, but both are close to Kirkwall. Kirkwall's harbor lies in front of the town to the east, while Scapa is barely a mile to the southwest, across a narrow isthmus. Scapa Flow is a huge, island-encircled, deep-water anchorage that could easily shelter all the fleets of the world.

Kirkwall Was Base of American Mine Sweeper Fleet

Though the Orkneys saw numerous naval vessels during the progress of the World War, they were especially associated with the gigantic task of the removal of the great North Sea mine fields by American mine sweepers. During this dangerous work, in 1918, scores of ships of the United States made their headquarters in Kirkwall harbor.

The Orkneys have been British territory only since 1468, when they were a wedding gift to the King of Scotland and his Danish bride. Norwegian adventurers

A snapper is an all-around, up-to-date fish, an evolutionary product of the keenest of all competition in the fish world, that which exists at the tropical shore-line.

The Snapper Is a "Go-Getter" Among His Kind

There is nothing peculiar or freakish about the snapper. He is just thoroughly successful and modern, active, adaptable, and clever—trim-formed, spiny-finned, keen-eyed, smooth-scaled, and strong-toothed.

There is a tendency for fishes which swim deep down under the blue or green sea and yet within the range of surface light penetration to be red in color. A great many are not, to be sure, but a larger proportion are red, frequently a clear, bright, striking red all over.

It seems almost a pity that the light in which they live is so green, that the color, red, must appear a neutral gray! Perhaps it gives them a useful inconspicuousness down there, or perhaps it absorbs a maximum amount of the dim, strongly blue-green sunlight, which is in some way helpful to them.

One of the commonest species of the surface reefs, the squirrel fish, has a regular, bright, "deep-water" red color. But the mystery of how it comes to such a color is easily explained, for it has similar relatives living deeper down. Evidently the squirrel fish has recently come up in the fish world, and its big eyes indicate that it has not yet adjusted itself to the bright light of the surface sun.

Note: Some of the odd sea creatures that will soon come to Chicago may be seen in their true colors even before they arrive at the aquarium, since they have been painted for the *National Geographic Magazine* and were reproduced in the issue of January, 1922. Color plates of the larger tropical water fishes, the barracuda, tarpon, sailfish, and others were printed in the January, 1921, *Geographic*.

Bulletin No. 3, December 2, 1929.

© *Photograph by Dr. W. H. Longley*

THE GRAY SNAPPER IS AN EFFICIENT FISH

Gray Snappers may be among the tropical fishes soon to be introduced to Chicago's new aquarium. The few favored Gray Snappers who go north will find Chicago a quiet and restful place after the strenuous life of evading enemies in the reefs off Florida's coast.

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Liberia Invites Slavery Investigators

THE Republic of Liberia has invited the League of Nations to investigate charges that slavery exists within its borders.

A commission made up of three members, one from the League, one from the United States and one from Liberia, will study conditions within the African West Coast free state and prepare a report.

They will find Liberia a small African copy of the United States.

"Nowhere in the world," according to a communication to the National Geographic Society, "can there be found a foreign country so like the United States in history, language, customs, and form of government. After traveling up the West African coast, touching at ports in British, French, Belgian, and Portuguese colonies, all of which are decidedly foreign, distinctly West African, and altogether 'far-away' and different in character, most Americans experience, when the slow West Coast steamer turns its nose into Monrovia Bay, a feeling of being much nearer home than the 4,000 miles which actually separate them from the nearest American ports.

Liberian Star and Stripes Resembles American Flag

"The steamer, cautiously approaching the shore, finally drops anchor and awaits a brave little surfboat, pulled by 20 stalwart natives in white duck uniforms, at first a tiny speck in the huge waves churning so threateningly over the dangerous bar. This feeling of interest is intensified when the boat approaches nearer and a flag is made out at its stern, so like the Stars and Stripes as to be readily mistaken for it. The Liberian emblem, however, has only eleven stripes and one lone star.

"Next the customs officer approaches—his English is decidedly American in accent—and demands that each passenger landing in Liberia prove that he has $100 in his possession. This requirement safeguards the little Republic from having to care for public charges. And he doesn't speak of pounds, francs, or pesetas, either; he says, in plain American, 'one hundred dollars'—another link with home, the only place in Africa where the currency is the same as ours!

"Monrovia, the capital, named for an illustrious American President, is the largest town in the Republic.

Better Residences Built Like Colonial Mansions

"The landing is disappointing. The wharf is small and untidy and the main business street along the waterfront—Water Street—is none too wide, none too straight, none too well paved, and none too clean.

"The business houses, most of the more pretentious of which are kept by British, French and Dutch firms, are poor, with the first floor usually built of cement and the roof of corrugated iron. Water Street could, however, easily be made to compare more favorably with the main business centers of Freetown or Dakar, which are also on the West Coast.

"Climbing the hill, two or three blocks, one comes to Ashman Street, the chief residential thoroughfare, which is very pleasing in aspect. The Executive Mansion, the foreign legations and consulates, the War Department Building, and the Representatives Hall lend to its importance. On this street are also several of the best residences, well constructed of brick, after the fashion of American houses of the Colonial days, with columns along the front.

had taken them over in the 10th century after their early Pictish inhabitants had mysteriously disappeared. They became a part of Norway in 1098, and remained a Scandinavian possession until they passed to Scotland. The people are of mixed Scandinavian and Scotch blood.

The Orkneys make up a county of Scotland, and, in combination with the Shetlands, send a member to the British House of Commons. Their combined area is about 375 square miles. The population, above 30,000 a generation ago, has dwindled to less than 25,000.

Note: The thrilling stories of the planting of the North Sea mine barrage and its removal after the World War, mentioned in the bulletin, were told in detail in the *National Geographic Magazine*, February, 1919, February, 1920. See also "The Orkneys and the Shetlands," February, 1921.

Bulletin No. 4, December 2, 1929.

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PICKING LIMPETS OFF THE ROCKS IN THE ORKNEYS

Limpets are food for the inhabitants of the Orkney Islands to-day as they once were for the Stone Age people who dwelt there. Limpets are a type of shell fish. A rigorous climate and lack of natural resources have combined to reduce the population of the Orkney Islands in recent years.

Liberian "White House" Has "East Room"

"The Executive Mansion is a large, white, three-story structure—and, like the White House in Washington, D. C., it has its 'East Room.'

"Liberia occupies that corner of West Africa which juts out into the Atlantic as if in an endeavor to reach across to the Brazilian shore, on the South American Continent. Only a few years ago the maps showed it to comprise a large area, extending northeastward almost to the Sahara; but the geographers themselves were unable to place definite heavy lines for Liberia's interior frontiers.

"Then came the dreams of African empires by European nations, and, little by little, the area accredited by the mapmakers to the weak little Republic has dwindled until to-day its coastline is only 360 miles in length and its frontier farthest in the interior is only 200 miles from the seacoast. Its present area, about equal to that of the State of Ohio, is one-third what the Liberians originally claimed.

"Here and there along the coast the original settlers—negro freedmen from the United States—founded little towns and settlements. They were sent from America back to the lands of their ancestors by the American Colonization Society, in which such men as President Monroe, Henry Clay, and others were interested. This movement began in 1816, and the first vessels, sailing schooners chartered by the American Government, set forth from New York in 1820-23.

"Many of the first settlers succumbed to African fevers; others were killed by hostile natives. Indeed, the early efforts of these civilized Americo-Liberians to establish themselves on the African coast were not unlike those of the early colonists at Jamestown and the seekers of new homes who landed at Plymouth Rock. Finally, they acquired right to certain lands by purchase from native chiefs."

Bulletin No. 5, December 2, 1929.

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THE MARKET PLACE OF MONROVIA IS NOT IMPRESSIVE

The fortunes of the Republic of Liberia have been greatly improved recently by the decision of an American rubber tire manufacturing company to establish plantations of Brazilian rubber trees in this West African free state. Liberia and Ethiopia are the only parts of Africa not under the rule of Europeans.